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May 31, 2022

Docket Control
ARIZONA CORPORATION COMMISSION
1200 W. Washington Street
Phoenix, AZ 85007

RE: Arizona Public Service Company (APS or Company)
Resource Planning and Procurement in 2019, 2020 and 2021
Docket No. E-00000V-19-0034

In Decision No. 78499 (March 2, 2022), APS is required to:

[F]ile, as a compliance item in this docket, [an] updated Five-Year Action Plan[] that describe[s] whether near-term resource selections have been impacted due to changes in the load-serving entity's load forecast attributable to the COVID-19 pandemic within 90 days of the Commission's Decision in this matter.

The Company's Updated Five-Year Action Plan discusses the near-term resource selections impacted by changes in APS's load forecast attributable to the pandemic. This load forecast change, however, does not significantly change the Company's underlying 2020 Action Plan that was filed in June 2020. APS takes this opportunity to share progress the Company has made on its 2020 Action Plan items in furtherance of acknowledgement of the 2020 Integrated Resource Plan.

Please let me know if you have questions.

Sincerely,

/s/ Elizabeth Lawrence

Elizabeth Lawrence

EL/Im
Attachment

cc: Elijah Abinah
Ranelle Paladino

ACTION PLAN UPDATE

May 31, 2022

Decision No. 78499 (Mar. 2, 2022) required Arizona Public Service Company (APS or Company) to update its Five-Year Action Plan to describe the near-term resource selections impacted by changes in the Company's load forecast attributable to the pandemic. The load forecast changes attributed to the pandemic did not significantly change the Company's underlying 2020 Action Plan that was filed June 26, 2020. However, the Company would like to provide the update below on progress made on the 2020 Action Plan items in the furtherance of its acknowledged 2020 Integrated Resource Plan.

Impact of COVID-19 on Load Forecast

The primary impact on the load forecast attributable to the COVID-19 pandemic is the increase in residential use-per-customer due to the higher number of customers working from home. Residential use-per-customer increased during 2020 and 2021 due to the higher volume of remote work, and the current load forecast assumes this will continue to some degree indefinitely (although at declining levels compared to 2021). Compared to the 2020 Integrated Resource Plan (IRP) forecast, APS's current forecast includes an additional 300-400 GWh annual energy impact due to increased residential use-per-customer for 2022-2024, primarily during the summer months. This corresponds to an increase in summer peak demand of approximately 220-280 MW during 2022-2024 compared to the 2020 IRP forecast. Commercial and industrial (C&I) loads were negatively impacted during 2020 and early-2021, however these loads have recovered to pre-COVID levels, and as a result, the forecasts do not include a COVID-impacted component for these customer classes. Higher residential customer loads, however, were somewhat offset by lower C&I growth. Near term resource procurements were aligned with APS's 2020 Request for Proposal (RFP) guidance and included an additional procurement in support of our Green Power Partners (GPP) program.

1. Continued Expansion of Renewable Resources

APS has continued expansion of renewable resources as described in the June 2020 Action Plan. Below is a summary of the results of RFPs that were either in progress at the time the 2020 Action Plan was filed or have taken place since then. It also provides an update of future expectations.

2. Investment in Energy Storage

At the time of the 2020 Action Plan, APS committed to completing its energy storage initiative, but the Company temporarily paused ongoing energy storage RFP efforts until the results of the McMicken incident could be fully understood and incorporated into future energy storage projects. That analysis has concluded, and APS is ensuring that all of its energy storage projects will be designed to industry-leading safety standards.

Since the Company's announcement of its Clean Energy Commitment in January 2020, APS has contracted for nearly 1,900 MWs of clean energy resources. In total, APS has currently contracted for 926 MWs of energy storage, all scheduled to be in service by 2025. APS has recently announced a 2022 All Source RFP from which it intends to procure additional energy storage expected to be online between 2025 and 2027.

3. Request for Proposals

Below is the outcome of RFPs that were in progress at the time of the 2020 IRP Action Plan.

- 2019 photovoltaic + storage (PVS) RFP – no awarded contract
- 2019 photovoltaic solar RFP – no awarded contract
- 2019 battery energy storage RFP– executed 60 MW engineering, procurement, and construction agreement for battery storage projects at two AZ Sun sites that are expected to be in service in 2023

- 2019 wind RFP – executed 200 MW power purchase agreement for wind resource that went into service in January 2022
- 2020 demand response RFP– executed 75 MW load management agreement for program that began service in 2021

APS recently concluded its 2020 All Source RFP, which was anticipated in the 2020 Action Plan and released later that year. APS procured more than 1 GW of clean energy resources, which include wind, solar, and energy storage, and is still negotiating one transaction from that RFP which, when contracted, will support the Green Power Partners program.

APS has one open RFP at this time, which is the 2022 All Source RFP. That solicitation seeks 1,000 – 1,500 MW of resources to be in service between 2025 and 2027.

APS also utilizes distributed energy resources to meet forecasted energy needs. Below is an update on the APS Solar Communities program, which has been ongoing since 2017.

4. Investment in APS Solar Communities

The APS Solar Communities Program, which makes solar available for limited- and moderate-income customers, was approved by the Arizona Corporation Commission (Commission or ACC) in Decision No. 76295 (Aug. 18, 2017). The program, under which APS installs, maintains, and owns the generation, renewable energy and emissions credits, allows for the installation of rooftop solar for customer homes, allocating at least 65% of annual program expenditures to residential installations. The program is also available for multifamily housing, Title I schools, nonprofits aiding limited-income groups, and government entities serving rural communities located in APS's service territory.

The Commission extended the program for three additional years in the APS 2019 Rate Case (see Decision No. 78317 (Nov. 9, 2021)). The program reopened for customer applications on aps.com during the first quarter of 2022, and the Company will be working with local installers to deliver the program.

5. Innovation in Customer-Side Resources

APS continues to offer programs that help customers save money and energy and have the greatest resource value, with an emphasis on load shifting and reducing peak load. The following programs are focused on customer participation and simplicity by aligning technologies, rates, and the grid's operational needs.

TAKE CHARGE AZ

Electric Vehicles (EVs) can help Arizona achieve an increasingly clean energy mix and cleaner air. Working towards the EV adoption goal of 450,000 light-duty EVs in APS's service territory, the Company is making EV charging more accessible for its customers and helping Arizona businesses, schools and governments electrify their fleets.

The APS Take Charge AZ pilot program offers free EV charging equipment, including installation and maintenance to businesses, government agencies, nonprofits and multifamily communities. Participants pay for the electricity used to charge EVs, which they are encouraged to do when solar energy is abundant and energy prices are lower. In 2021, APS continued its expansion of its Take Charge AZ pilot program, having installed over 400 charging ports at customer locations by year end and with more stations expected to be added through 2022 and beyond.

In addition to the Level 2 charging stations, APS began construction of DC fast charging stations that will be owned and operated by APS at five locations across Arizona and APS's service territory, with the first location that opened in March 2022. The remaining four project locations are expected to be completed

during 2022, with each location including 2-150 kW and 2-350 kW DC fast charging ports. Charging at these stations will be accessible through the Electrify America charging network.

The ACC ordered the state's public service corporations, including APS, to develop a long-term, comprehensive Statewide Transportation Electrification Plan (TE Plan) for Arizona. The TE Plan is intended to provide a roadmap for transportation electrification in Arizona, focused on realizing the associated air quality and economic development benefits for all residents in the state along with understanding the impact of EV charging on the grid. APS actively participated in developing this plan. The ACC approved the plan in Decision No. 78383 (Dec. 28, 2021). APS has been working with stakeholders to develop a Transportation Electrification Implementation Plan and Budget to be filed with the ACC.

DSM IMPLEMENTATION PLAN

The APS 2022 Demand Side Management (DSM) Implementation Plan (DSM Plan) (filed on December 17, 2021) continues the Company's focus on important customer-sited resources and programing; Commission approval is currently pending. The 2022 DSM Plan continues APS's work to reshape DSM to better align with excess production of electricity in the middle of the day from solar generation and peak reductions in the evening when the sun has set. This translates to customer savings on bills and emissions reductions from using clean midday solar output. Among other measures, the plan proposes to continue scaling APS's residential load management, demand response, and energy storage technologies. These technologies help residential customers shift energy use and manage peak demand while reducing their energy costs.

Further, the Company's 2022 DSM Plan proposes to continue funding its Limited-Income Weatherization Program at higher levels and focuses on disadvantaged communities and limited-income multifamily properties, and support of non-profit entities that support these customer segments.

APS is also expanding its education and outreach to help customers make choices to reduce energy consumption when possible and shift energy usage to clean, lower-cost portions of the day when reduced consumption is not possible.

APS DEMAND RESPONSE AND LOAD MANAGEMENT PROGRAMS

APS has implemented and continues to rapidly scale a number of demand response and load management programs that facilitate emerging energy storage technologies such as grid-connected batteries, water heaters, and smart thermostats throughout its service territory. The increasing adoption of rooftop solar is rapidly changing system load shapes and creating need for more flexible resources to back up intermittent solar generation. APS is using customer-sited batteries, water heaters, and smart thermostats, or distributed energy resources that support load management, demand response and load shifting to help meet these flexible resource needs by limiting peak demand and shifting energy use away from peak periods and toward midday, when rooftop solar production is highest. Below is an update on current progress in these load management programs since the Action Plan was filed June 26, 2020.

- Cool Rewards (demand response) – APS has enrolled more than 62,000 connected residential smart thermostats in this demand response program in which we can operate the thermostats to reduce load during summer system peak events. By year-end, the Company anticipates more than 100,000 connected thermostats in the Cool Rewards program.
- Peak Solution (C&I demand response) – the APS Peak Solutions program is designed to give C&I customers the opportunity to earn financial rewards for participation in demand response events when voluntarily reducing energy use at participating facilities.

- APS Residential Battery Storage Pilot – APS launched its Residential Battery Storage Pilot in the fourth quarter of 2021. This program will assist the Company in learning about battery performance in a variety of conditions and the customer experience with the technology. Customers can choose between data share only or, for a greater incentive, to share data and allow battery management during demand response events. The first batteries participating in this program are coming online at this time, and APS looks forward to reporting out on the performance of these customer-sited assets.
- APS launched an EV Charging Demand Management pilot program to proactively address the growing electric demand from EV charging as EVs become more widely adopted. This program includes the APS SmartCharge data gathering program, an EV smart charger rebate for qualifying EV chargers, and a \$100 rebate to homebuilders for new home 240V charging station garage outlets.

6. Short-Term Summer Peaking Needs

The Company's process for meeting short-term summer peaking needs was not impacted by the pandemic. Short-term summer peaking purchases are used as a bridging strategy to meet the projected load plus reserve margin. They ensure that APS can meet summer reliability requirements and will be structured not to impact longer-term resource planning strategies. These short-term needs are assessed prior to each summer and are typically met with wholesale market purchases from a combination of existing merchant natural gas units, other utilities and wholesale market participants. APS has concluded its short-term summer procurement for the 2022 summer season with a balance of various wholesale market purchase structures which prioritize capacity-backing and regional diversity. APS's current position across summer meets our reliability requirements and optimizes our transmission and fuel supply contracts.

7. Palo Verde Lease Extension

In 1986, APS entered into agreements with three separate Variable Interest Entities (VIE) lessor trust entities in order to sell and lease back interests in Palo Verde Unit 2 and related common facilities. APS will retain the assets through 2033 under all three lease agreements. APS will be required to make payments relating to the three leases in total of approximately \$21 million annually for the period 2022 through 2033. At the end of the lease period, APS will have the option to purchase the leased assets at their fair market value, extend the leases for up to two years, or return the assets to the lessors.

8. Natural Gas Transition

Managing customer affordability is an important element of the clean energy commitment. APS will need to transition from a large quantity of fossil fuel peaking capacity to clean peaking capacity over the next 30 years. Natural gas is a source of reliable system capacity that will allow APS to transition the fleet while maintaining a reliable safety net for the system should any new resource projects be delayed. It will also help the Company negotiate the best possible prices for new clean resources by providing flexibility in renewable and clean peaking capacity timing.

Natural gas-fired turbines are increasingly showing the ability to be co-fired or exclusively fired by hydrogen, whereby reducing carbon emissions. The Company recognizes the opportunity to convert the entire natural gas fleet from combusting gas to combusting hydrogen and expects to use gas as a transition fuel so research on alternative cleaner fuels can continue while maintaining affordability. PNW Hydrogen LLC, a subsidiary of Pinnacle West Capital Corporation, submitted a proposal to the DOE Office of Nuclear Energy to develop a demonstration project that would validate in a real-world setting the viability of an integrated energy system utilizing nuclear power to produce hydrogen from electrolysis, store the product hydrogen and its follow-on use for natural gas turbine co-firing and synthetic hydrocarbon production. That proposal was selected in October 2021. The award negotiations are on-

going, and the final collaborative agreement is expected upon commitment by PNW Hydrogen to provide non-Federal cost share.

9. Investment in APS Transmission System

TRANSMISSION RESOURCES

On January 31, 2022, APS filed its 2022-2031 Ten-Year Transmission System Plan, which includes approximately 25 miles of new 500 kV transmission lines, 3.5 miles of 500 kV transmission line relocations, one mile of new 345 kV transmission lines, 42 miles of new 230 kV transmission lines, three miles of underground 230 kV upgrades, 3.5 miles of 230 kV transmission line relocations, and three miles of 115 kV transmission line upgrades described as planned projects in this Ten-Year Plan. In addition, the following equipment is included in the Ten-Year Plan: 37 new transformers, two new shunt reactors, nine new shunt capacitors, three transformer replacements, and one series capacitor replacement. The total investment for the APS projects is estimated to be \$914 million. Annual updates to the Ten-Year Transmission System Plan will address future needs and opportunities as they develop.

TRANSMISSION RESOURCES

APS continues to make progress in its transition to the Flowgate Methodology to improve its transmission system utilization. The Company will transition from a Rated System Path Methodology (MOD-029) to a Flowgate Methodology (MOD-030) for the calculation of Available Transfer Capability (ATC). APS has worked with its vendors to add the additional functionality and logic necessary to its existing software solutions to achieve accurate and reliable capacity calculations. APS is targeting transitioning to the Flowgate Methodology later this year which will result in more efficient use of and greater capacities for the Company's transmission system, may result in some avoided future transmission build, may provide more flexibility in siting generation resources, and will save customers money.

10. Extended Day Ahead Market

APS continues to evaluate opportunities that benefit its customers and is exploring opportunities to move to a day-ahead market with the expectation of reliably achieving incrementally greater cost savings and using the region's increasing renewable resources more efficiently. As part of that effort, APS is exploring several options to determine the best outcome for our customers in terms of reliability, customer cost savings and clean energy integration. APS is in discussions with the current EIM operator, the CAISO, the Western Resource Adequacy Program, the Western Markets Exploratory Group, and the Southwest Power Pool. Each of these explorations also involve other entities and are being undertaken to evaluate the feasibility and cost/benefit of creating a voluntary day-ahead market.

Conclusion

As indicated in this Action Plan update, the impacts of COVID-19 on the Company's load forecast have not altered near-term or long-term resource selections. APS continues to execute on the 2020 Action Plan filed in the recently acknowledged 2020 IRP, and is progressing on its commitment to provide reliable, clean and affordable energy for our customers. This is being accomplished through a mix of customer programs and procurement of renewable energy and energy storage projects.